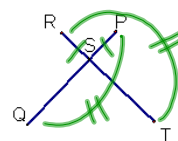


2-7 Proving Segment Relationships

2-8 Proving Angle Relationships

Continued

Example 1

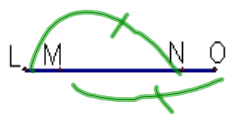
Given:  $RT = PQ$ ;  $RS = PS$ Prove:  $ST = SQ$ 

Statements	Reasons
① —	① Given
② $RT = RS + ST$ $PQ = PS + SQ$	② Segm. + Post.
③ $RS + ST = PS + SQ$	③ Subst.
④ $ST = SQ$	④ Subtr.

Oct 10-9:47 AM

Oct 10-10:00 AM

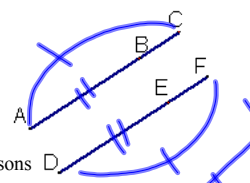
Example 2

Given:  $LN = MO$ Prove:  $LM = NO$ 

Statements	Reasons
① —	① Given
② $LN = LM + MN$ $MO = MN + NO$	② Segm. + Post.
③ $LM + MN = MN + NO$	③ Subst.
④ $MN = MN$	④ Reflexive
⑤ $LM = NO$	⑤ Subtr.

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DO:

Given:  $AC = DF$ ;  $AB = DE$ Prove:  $BC = EF$ 

Statements	Reasons
① —	① Given
② $AC = AB + BC$ $DF = DE + EF$	② Segm. + Post.
③ $AB + BC = DE + EF$	③ Subst.
④ $BC = EF$	④ Subtr.

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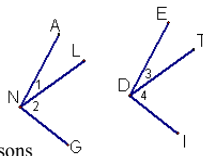
EXAMPLE 4:

Given:  $m\angle ANG = m\angle EDI$ ;  $m\angle 1 = m\angle 3$

Prove:  $m\angle 2 = m\angle 4$

## Statements

## Reasons



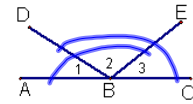
DO:

Given:  $m\angle ABE = m\angle DBC$

Prove:  $m\angle 1 = m\angle 3$

## Statements

## Reasons



①

②  $m1 + n1 = m2 + n2$

③  $m1 + n2 = m2 + n1$

④  $m1 + n2 = m2 + n2$

⑤  $m1 = m2$

① Given

② Angle + Post.

③ Subst

④ Refl.

⑤ Subst.

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